

BROWN (Buckminster)

*W. D. Dr. Brown, respects*

# PLASTER OF PARIS BANDAGE

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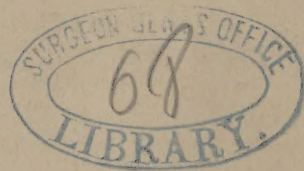
## SPINAL DISEASE AND SPINAL CURVATURE.

A REVIEW.

BY

BUCKMINSTER BROWN, M. D.

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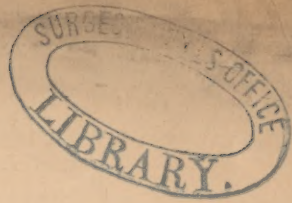
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## SPINAL DISEASE AND SPINAL CURVATURE:<sup>1</sup>

### THEIR TREATMENT BY SUSPENSION AND BY THE USE OF THE PLASTER-OF-PARIS BANDAGE.

IN this volume Dr. Sayre has given a complete account of his treatment of caries of the spine and of spinal curvature by the plaster-of-Paris bandage. The minutest details of the application of the "jacket" are carefully laid down, and the process is fully illustrated by numerous photographs and engravings.

We are correct in speaking of the treatment as *his*, for the idea of adopting this plan and applying it in *all* cases of spinal disease and curvature originated with or was first brought before the profession by Dr. Sayre. On page 14 due credit is given to Dr. Bryan, of Lexington, Kentucky, for having applied a plaster-of-Paris splint to a case of Pott's disease in 1874. But as an account of this application, although witnessed by several physicians, was not published or otherwise made known to our author previous to May, 1876, he derived no hint from that source.

Experiments to prevent motion of the spine, when affected with caries, and at the same time to allow of locomotion, but without any efficient endeavor to prevent pressure on the diseased vertebræ, have been made at various times. Eulenburg in 1867 or 1868 employed starch or dextrine bandages. Schildbach, of Leipsic used, instead of starch, gutta-percha moulded to the form. Klopsch used a solution of gutta-percha. Cuirasses made of copper have been employed for the same purpose. To form this cuirass a plaster-of-Paris mould of the trunk was first taken; from this a mould of wax, and on the wax copper was electrotyped. This cuirass was usually perforated to allow of transpiration.

Thus an accurately fitted immobile corset was made, adapted to the deformity.

The use of extension previous to and during the adjustment of the plaster-of-Paris bandage is considered by the author of the work before us an essential integrant part of the treatment. Dr. Sayre visited England during the last summer, and while there he made numerous applications of his method in several of the hospitals in London and elsewhere, and in the presence of some of the most distinguished physicians and surgeons of Great Britain.

The volume we are noticing was published in London, and contains the history of his first employment of the dressing, and the narration of many cases in which it has been used, both in this country and in England.

It was towards the end of the year 1874 that the first full plaster dressing

<sup>1</sup> *Spinal Disease and Spinal Curvature. Their Treatment by Suspension and by the Use of the Plaster-of-Paris Bandage.* By LEWIS A. SAYRE, M. D., of New York. London. 1877.

was applied. The majority of the cases cited occurred during the years 1876 and 1877. The principle upon which this device is founded is undoubtedly the true one, namely, that upon which we act when treating a fractured bone. The diseased spine should be kept immovable, and it should be relieved of all superincumbent weight.

Those who have had much experience with this disease have constantly had occasion to remark the relief which is afforded by support of almost any description. Any arrangement which will brace the trunk is most gratefully received. A simple bandage wound around the body is acceptable, and the firmer the support the greater the relief obtained. This fact accounts for the degree of success, often only temporary, which attends the use of the numerous instruments which have been devised for the treatment of spinal disease. The best of those which are intended to be worn while the patient is moving about are based, in accordance with the principle above stated, upon the theory of antero-posterior support combined with an attempt to prevent motion and pressure.

A description of an apparatus constructed to fulfill these three indications was published by the writer of this review in 1858. Such an instrument, with modifications from time to time, was constantly used by him for some years previous and subsequent to that date, and, thus modified, is employed to the present time, in cases adapted to that method of treatment, and especially in the convalescent stages of the disease. More recently (in 1863), Dr. C. F. Taylor, of New York, described an instrument formed upon the same principles and now known by his name.

It appears to us probable that Dr. Sayre's "plaster-of-Paris jacket" may prove to accomplish the indications of immobility and relief from superincumbent pressure better than any other appliance, allowing locomotion, which has hitherto been devised. That it will supplant all other treatment, and that it is applicable to every case of caries of the spine, in all its stages, surgeons who have experienced or have witnessed the remarkable results of absolute rest will be slow to believe. By rest is here meant not simply lying in bed, with occasional sitting up, or rising on the elbow, and other movements, such as circumstances may seem to require, but complete physiological rest, — rest, therapeutic in its influence, and combined with extension so applied as not only to prevent all movement of the diseased vertebræ, but also to render pressure upon the inflamed or carious surfaces impossible, and this united with such local applications as the case may require and with a thorough hygienic and constitutional régime; a rest from which the patient rises fat, with red blood, with restored health, and often without deformity.<sup>1</sup>

Dr. Sayre's surgical skill and his scientific application of a fertile, inventive genius command our respect. His enthusiasm in the branch of surgery to which he has chiefly devoted his time, talent, and energies is well evinced by the ardor with which he has advocated, and consequently extended, his treatment of Pott's disease.

<sup>1</sup> The writer of this notice intends to prepare for the press a paper upon Caries of the Spine, in which his experience and views will be given more at length than is admissible in a brief review like the present.



There is one point connected with this treatment to which we have not referred. The skin is an important organ. The healthy performance of its functions is of momentous consequence in the rôle of general health. In an æsthetic as well as a sanitary point of view, the prolonged occlusion of so large an extent of cutaneous surface from the beneficent influences of air and water, with the unavoidable accumulation of secretions, is a consideration not to be overlooked when contemplating the adoption of the plaster-of-Paris bandage in any particular case.

The method of treatment for the exposition of which the volume before us was written is of recent birth. It is only after prolonged experience, on an extended scale, in the hands of skillful surgeons, and under the eye of the medical public, that this new appliance will find its true place among the resources of our profession, in the treatment of spinal caries or in certain stages of the disease.

We are using the "plaster-of-Paris jacket" in cases and under circumstances to which it is deemed peculiarly applicable. The results of these investigations will be made public after sufficient time has elapsed to enable us to give a fair analysis and to form a correct judgment on the merits of the treatment in the complaint now under consideration.

The latter portion of the volume is devoted to rotary-lateral curvature of the spine.

The treatment of this affection by the same dressing as that which is applied in vertebral disease is advocated. On this point we feel obliged to differ *in toto* from our author.

The two complaints are far removed from each other pathologically; also in ætiology, in symptoms, and in results. The treatment of lateral curvature, in our opinion, should be for the most part utterly dissimilar, in fact the opposite, to that which is appropriate in inflammation or caries. One is a disease of the bone, or of fibro-cartilage, or more frequently of both tissues. The other is a disturbance of equilibrium, arising sometimes from habits of malposition, but in far the larger number of instances it originates in muscular and nerve debility, or from a combination of these causes.

Lateral curvature of the spine, generally, perhaps always, complicated with rotation, — when unconnected with disease within the chest, — is sometimes presented to our notice in a person young, healthy, and even robust in appearance. Under such circumstances, it is evident the complaint does not originate in debility. It undoubtedly arises from some vicious habit of standing, walking, or undue use of one arm, or from habitually carrying a weight on one side, as in resting a child on one hip, etc. In another class of cases, — and, as we have previously said, this is far the larger class, — the patient has thin, weak, yielding muscles, is anæmic, nervous, and is otherwise undertoned, often without being decidedly an invalid. The cause of the spinal curve is evident, and it often seems to be a matter of chance in which direction the chain of bones yields. In still others, the curve may be traced to a combination of the above-mentioned causes.

Such being the ætiology of lateral curvature, our local treatment should be as diametrically opposed to that which is to be pursued in Pott's disease as is the pathology of the two affections.

We can hardly imagine any combination of circumstances which would induce us to incase a young, growing girl, in the early stages of lateral curvature, in plaster-of-Paris. In those cases to which we have referred as arising from general debility, we think the curvature can be relieved more thoroughly, more permanently, and more naturally by other methods than by inclosing the trunk in unyielding walls, where healthy play of the muscles is almost, if not quite, impossible, while at the same time we are not prevented from employing local as well as general tonics. The very reasons which may, under certain circumstances, render such a course appropriate, where we have to deal with diseased bone, will hold as an unanswerable argument against its employment in lateral curvature. The small amount of special spinal exercise afforded by "self-suspension," for a few moments twice a day, as advised by Dr. Sayre, will not obviate the effects of inaction of muscle, ligament, and bone. Absorption of adipose tissue and muscular atrophy must inevitably follow.

In such cases every hygienic influence that we can command should be called upon to assist in removing the constitutional debility, as well as the local affection.

The patient should not be debarred, by any appliance which may be used to remedy the curvature, from the great, the all-important benefit to be derived from massage and friction, from bathing, and from the active and varied use of the muscles attached to the spine.

In those cases where the patient is in good health and flesh, the effects of confinement and pressure above alluded to must be still more apparent. In the more advanced stages our objections would still hold good, and it is only in confirmed scoliosis, where a simple, firm, cheap support is required to enable the patient, with greater ease, to pursue his or her customary avocations, that we should be willing to recommend the employment of the plaster "jacket."

While in conclusion we decidedly express our opinion as adverse to the application of the plaster-of-Paris bandage in scoliosis, we think in some circumstances, as one of the remedial agents in carious cyphosis, its use will prove a valuable resource. For its introduction to the profession in these cases, although serviceable, perhaps, in a more limited sphere than was originally intended, we are indebted to Dr. Sayre.

B. B.





